

REMARKS

In the specification, new paragraphs [0019.1] and [0010.2] have been added after paragraph [0019] to set forth a brief description for new drawing figures Fig. 8 and Fig. 9. Paragraphs [0032] has been amended to affirmatively call out a data field 53 in the data packet in Fig. 6. Paragraph [0034] has been amended to add references to elements in new Fig. 8. Paragraph [0036] has been amended to add references to elements in new Fig. 9.

In amended Figure 6, a reference numeral to data field 53 has been added. New Fig. 8 and Fig. 9 have been added to set forth details described in the specification. Annotated sheet showing the amendment to Fig. 6, and replacement sheets for all three figures have been supplied.

Claims 1-7, and 10-17, 19-21, 23 and 24 remain in this application. Claims 8, 9, 18, and 22 have been canceled. New claims 25 and 26 have been added.

The Examiner has acknowledged that claims 9, 10, 18, and 22 are directed to allowable subject matter.

Reconsideration of this application in light of the above amendments and the following remarks is respectfully requested.

Objections to Drawings under 37 CFR 1.83(a)

The Examiner objected to the drawings as lacking "a detailed flow chart depicting the various replacement of address information that occurs as described in the specification." Applicants respectfully traverses this objection as applicant believes the drawings, as originally submitted, shows all necessary details of structure and process. For example, Fig. 3 shows the architecture of the layers that operate on the data packets, including the IP driver, the API, and the application. Fig. 5 shows further details of a gateway having a DPM server situated between an originating computer with a DPM driver and a destination computer. Fig. 6 further shows how the data packet data fields are specifically changed or manipulated by the DPM server, DPM driver, etc. However, in order to advance the prosecution of this case, Applicant has prepared and submitted additional drawing figures Fig. 8 and Fig. 9 that set forth additional details. Fig. 8 generally mirrors the language found in the independent claims and finds support in, for example, paragraph 34 of the specification. Fig. 9 provides additional details using a specific example of reconciling

Amendments to the Drawings:

The attached sheets of drawings includes changes to Fig. 6, where a new reference numeral 53 has been added. Two additional sheets of drawings include new Fig. 8 and Fig. 9.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes

two separate requests for a port number and network address described in paragraph 36. Accordingly, these two paragraphs have been amended to add the reference numerals to these drawing figures as well as additional text specifically referencing Fig. 8 and Fig. 9 that have support in the claims and/or elsewhere in the specification. Applicant respectfully request the entry of these new drawing figures.

Rejections Under 35 U.S.C. §112

The Examiner rejected claims 3, 4, 15, and 20 because "Applicant has not shown how the determination will be made that a port can be replaced by a gateway. It is unclear as to what the DPM driver/server uses to distinguish whether the port is replaceable or not." Applicant respectfully traverses this rejection.

In paragraph 32, which refers to Fig. 6, it states:

This "setup" process may use a plurality of packets communicated between the DPM driver 42c and the DPM server 44c. For instance, any given packet 52 will have a header section 52a. In these packets, the source IP address/port will still be IP_x/123 as assigned by the DPM driver, however the destination IP address is now an unregistered IP address of the DPM server IP_y, and the port is fixed to a predetermined one of the gateway such as a "well-known" port 1080. The information about the true/final destination (e.g., the destination computer 20) is embedded in a data section 52b of the packet which should include at least, in this case, IP_{out}:23 and ***an indicator about the replaceability of the port number, as indicated by data field 53***. It is understood that since this destination information and port replaceability is contained in the data section of the packet, not the header section, various methods can be implemented to have both the DPM driver and server to agree on a predetermined mechanism for each of them to extract such information. (emphasis added)

Subsequently in paragraph 34, with reference to Fig. 7, it states, "At step 76, the DPM server checks to see whether the port number may be changed (step 93 in Fig. 8). This may be done by examining data field 53 in Fig. 6."

Therefore, it is clear that data field 53 contains data that is indicative of whether the port number is replaceable, and that such determination may be made by examining that data field. If the Examiner's inquiry is why some port numbers are replaceable and not others, then the

Examiner's inquiry is outside the scope of this invention.

Rejections Under 35 U.S.C. §103

Claim 1

Claim 1 has been amended to recite:

A method for dynamically managing port and network addresses for a first network using at least one dynamic port management (DPM) driver and a DPM server, the DPM driver being installed on a first node of the first network and the DPM server being installed on a gateway module of the first network, the first network using a first type of network address for its internal uses and having one or more network addresses of a second type for communicating with a second node outside of the first network, the method comprising:

obtaining a first port for an application session, the application session requiring communication with the second node;

exchanging information between the DPM driver and the DPM server for reserving a network address of the second type and, if the first port is replaceable, for dynamically assigning a second port;

using the network address of the second type and the dynamically assigned second port for completing the communications of the application session,

wherein the information exchanged between the DPM driver and the DPM server indicates a network address and port for the second node;

reconciling two separate application sessions requesting the use of the same reserved network address of the second type and the first port while at least the first port associated with one of the application sessions is not replaceable; and

recognizing, by the DPM server, data packets received for the two application sessions if both request the use of the first port, while neither of which is replaceable.

Amended claim 1 was rejected over Bhatia and Gbadegesin. Applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness with respect to claim 1. Claim 1 has been amended to include limitations found in claim 8 and claim 9 (both now canceled) because the Examiner had indicated the subject matter of claim 9 was allowable. Therefore, amended claim 1 is now patentable. Claims 2-7, 10, and 11 depending from amended claim 1 are therefore also patentable for the same reasons.

Claim 12

Claim 12 has been amended to recite:

A computer program for dynamically managing port and network addresses for a first network using at least one dynamic port management (DPM) driver and a DPM server, the DPM driver installed on a computer of the first network and the DPM server installed on a gateway module of the first network, the first network using a plurality of unregistered network address for its internal uses and having one or more registered network addresses for communicating with computers outside of the first network, the computer program comprising:

instructions for obtaining a first port from the DPM driver for an application session, the application session communicating with at least one computer outside of the first network;

instructions for exchanging information between the DPM driver and the DPM server for reserving a registered network address and, if the first port is replaceable, for dynamically assigning a second port; and

instructions for using the reserved registered network address and the dynamically assigned second port for completing communications of the application session,

instructions for recognizing, by the DPM server, data packets received for two separate application sessions requesting the use of the same reserved network address and the first port while neither of which is replaceable by using the network address and port for the computer outside of the first network to distinguish each application session;

wherein the information exchanged between the DPM driver and the DPM server indicates a network address and port for the computer outside of the first network communicating with the application session.

Amended claim 12 was also rejected over Bhatia and Gbadegesin. Applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness with respect to claim 12. Claim 12 has been amended to include limitations found in claim 18 (now canceled) because the Examiner had indicated the subject matter of claim 18 was allowable. Therefore, amended claim 12 is now patentable and claims 13-17 and 19 depending therefrom are also patentable for the same reasons.

Claim 20

Claim 20 has been amended to recite:

A method for dynamically managing port and network addresses for a first network using at least one dynamic port management (DPM) driver and a DPM server, the DPM driver installed on a computer of the first network and the DPM server installed on a gateway module of the first network, the first network using a plurality of unregistered network addresses for its internal use and having one or more registered network addresses for communicating with computers outside of the first network, the method comprising:

obtaining a first port for an application session, the application session communicating with at least one computer outside of the first network;

reserving a registered network address by exchanging information between the DPM driver and the DPM server;

detecting whether the first port is replaceable;

dynamically assigning a second port to replace the first port for the application session if the first port is replaceable;

extracting the network address and port for the computer outside of the first network from at least one packet used for exchanging information between the DPM driver and the DPM server;

including the network address and port for the computer outside of the first network as a destination network address and destination port for at least one data packet of the application session initiated by the computer of the first network;

assigning the reserved network address and either the first port or, if the first port is replaceable, the second port as a source network address and source port for the data packet; and

reconciling two separate application sessions requesting the use of the same reserved network address and the first port while at least the first port associated with one of the application sessions is not replaceable by using the network address and the port for the computer outside of the first network to distinguish each application session.

Amended claim 20 was also rejected over Bhatia, Gbadegesin, Rao, and Border. Applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness with respect to claim 20. Claim 20 has been amended to include limitations

found in claim 22 (now canceled) because the Examiner had indicated the subject matter of claim 22 was allowable. Therefore, amended claim 20 is now patentable and claims 21, 23, and 24 depending therefrom are also patentable for the same reasons.

New Claims 25 and 26

A new independent method claim 25 and a claim 26 depending therefrom have been added. Claim 25 includes limitations on reconciling two requests for the same port number and network address. Claim 25 provides for:

A method comprising:

initiating first and second application sessions;

carrying out a setup process between DPM driver and DPM server;

receiving a request for a first port number and a first network address from the first application session, the first application session has associated therewith a first destination network address and first destination port number;

receiving a request for a first port number and a first network address from the second application session, the second application session has associated therewith a second destination network address and second destination port number;
and

reconciling first and second application session requests by dynamically assigning the first network address and the first port number to both the first and second application sessions by differentiating the first and second application sessions by their respective destination network addresses and port numbers.

None of the art of record shows or suggests a combination of these limitations. Accordingly, new claim 25 and its dependent claim 26 are patentable.

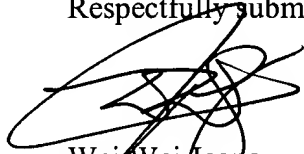
Conclusion

It is clear from all of the foregoing that independent claims 1, 12, 20, and 25 are in condition for allowance. Dependent claims 2-7, and 10, 11, 13-17, 19, 21-24 and 26 set forth additional limitations and are therefore allowable as well.

An early formal notice of allowance of claims 1-7, 10-17, 19-21, 23 and 24 is respectfully requested.

Although Applicant believes that all fees due in association with the filing of this Amendment are submitted herewith, the Commissioner is hereby authorized to charge any additional fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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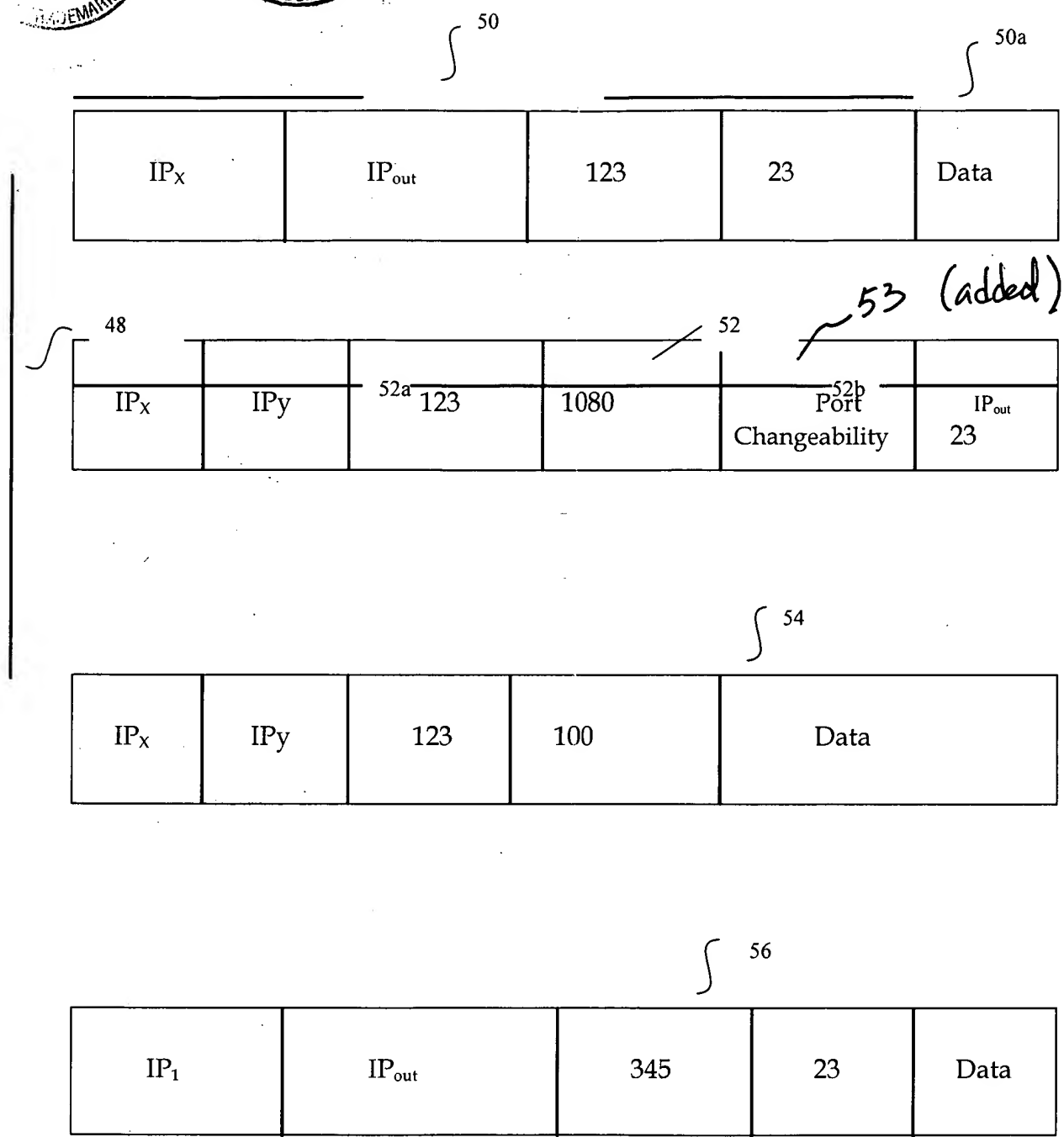


Fig. 6